

ABSTRACT

The present invention provides a method of manufacturing a fumed silica useful for polishing tungsten and titanium on a semiconductor wafer. The method comprises the act of providing a predetermined volume of water and providing a predetermined concentration of the fumed silica, wherein the concentration of the fumed silica is at least by weight percent 35 of the volume of water. Further, the invention provides the act of mixing an acid into the volume of water to acidify the water, wherein the concentration of the acid is by weight percent 0.0010 to 0.5 of the concentration of the fumed silica, and dispersing the fumed silica into the acidified water. Further, the invention provides diluting the concentration of the fumed silica, wherein the pH of the water is 1 to 7 and collecting the fumed silica.